Cost-Benefit Analysis
DOD Application and Realities

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Cost-Benefit Analysis – WHY??

- Alcoa model
  - No price tag
- DOD realities
  - Limited resources – Need for decision / prioritization tool
  - Problem from the field:
    - Limited expertise in economic assessments, calculations, reporting

Cost-Benefit Analysis Components

- Inputs (costs)
- Outcomes (benefits)
  - Increased profit
    - Productivity enhancement
    - Decreased errors / reject rate
  - Cost avoidance
    - Damages / losses
    - Injuries

Baselines and Projections

- Productivity enhancement
  - Current level of production
  - Model new level of production
    - Reliable and valid simulation or evidence
- Decreased errors / rejection rate
  - Current error rate / rejection rate
  - Model new error and rejection rates
    - Reliable and valid simulation or evidence

Baselines and Projections

- Damages / losses
  - Current level of equipment / capitol investment damages and losses
  - Model new damages and losses
    - Reliable and valid simulation or evidence

Injury Baselines and Projections - Issues

- Populations: Military and civilian
- Range of effects: active work force → disabled, retired → beyond
- Multiple *administrative* sources of data
- Data gaps
- Two levels of analysis – program & individual solution
- Baseline – previous year vs last five

The Gordian Knot Military

- Battalion aid station No data
- Troop medical clinic Some data
- Medical clinic KGADS
- Limited duty KGADS – yes / no
- Quarters KGADS – yes / no
- Hospitalization SIDR
- Convalescent leave Unused SIDR data element
- Medical hold No data
- Medical retirement Disability data - percentage
- Post retirement VA data – percentage / care

Military Data Gaps

- Profile – days, restrictions
- Quarters – days
- Convalescent leave
- Population denominators
- Outsourced care
- Shipboard care
- Deployment care

"I can tell you what equipment and supplies we have deployed down to the last nail. Do you mean to tell me that we don't know how many military have been injured over there?"

The Gordian Knot Civilian

- First aid OSHA recordable (local)
- Private physician No data
- No lost time case FECA data
- Compensable injury DFAS timecard (45 days)/FECA
- Compensable illness DFAS timecard (LWOP)/FECA
- Long term rolls FECA
  - Disability

Civilian Data Gaps

- FECA
  - Incomplete coding (e.g., NOI, COI, EOI)
  - No lost time vs lost time
- DFAS
  - Location information
- Population denominators

Critical Information

- Diagnoses
- Payments and percentages
- Lost time, limited duty
- Location
- Occupation
- Rank / WG or GS level

Injury Costs

- Medical care
  - Actual payments
  - Estimated costs (tests, procedures,specialties, regions)
- Time (salary cost)
  - Medical care (+buddy time)
  - Lost days
  - Limited day (% productive)
- Compensation - actual payments
- Disability
  - % disabled (base salary)
  - Actual payments
  - Replacement (e.g., hiring, training)

Analysis

- Program Level
  - Overall impact measured
  - Entire population
  - Sensitivity analysis
- Individual Solution
  - Target population – local rate and number affected
  - Current exposure and injury risk
  - Future exposure and injury risk
    - Quantification of exposure challenges
    - Straight line relationship between exposure and risk?
    - Does injury risk equate to actual injury?
  - Sensitivity analysis

Questions??